```
BBBBBBBBBBBBB        AAAAAAAAA        SSSSSSSSSSSS   RRRRRRRRRRRR      TTTTTTTTTTTTTTTTT  LLL
BBBBBBBBBBBBB        AAAAAAAAA        SSSSSSSSSSSS   RRRRRRRRRRRR      TTTTTTTTTTTTTTTTT  LLL
BBBBBBBBBBBBB        AAAAAAAAA        SSSSSSSSSSSS   RRRRRRRRRRRR      TTTTTTTTTTTTTTTTT  LLL
BBB        BBB   AAA        AAA   SSS            RRR        RRR            TTT            LLL
BBB        BBB   AAA        AAA   SSS            RRR        RRR            TTT            LLL
BBB        BBB   AAA        AAA   SSS            RRR        RRR            TTT            LLL
BBB        BBB   AAA        AAA   SSS            RRR        RRR            TTT            LLL
BBB        BBB   AAA        AAA   SSS            RRR        RRR            TTT            LLL
BBBBBBBBBBBBB    AAA        AAA          SSSSSSSS   RRRRRRRRRRRR           TTT            LLL
BBBBBBBBBBBBB    AAA        AAA          SSSSSSSS   RRRRRRRRRRRR           TTT            LLL
BBBBBBBBBBBBB    AAA        AAA          SSSSSSSS   RRRRRRRRRRRR           TTT            LLL
BBB        BBB   AAAAAAAAAAAAAAAA               SSS  RRR   RRR            TTT            LLL
BBB        BBB   AAAAAAAAAAAAAAAA               SSS  RRR   RRR            TTT            LLL
BBB        BBB   AAAAAAAAAAAAAAAA               SSS  RRR   RRR            TTT            LLL
BBB        BBB   AAA        AAA                 SSS  RRR      RRR         TTT            LLL
BBB        BBB   AAA        AAA                 SSS  RRR      RRR         TTT            LLL
BBB        BBB   AAA        AAA                 SSS  RRR      RRR         TTT            LLL
BBBBBBBBBBBBB    AAA        AAA   SSSSSSSSSSSS   RRR         RRR         TTT  LLLLLLLLLLLLLLL
BBBBBBBBBBBBB    AAA        AAA   SSSSSSSSSSSS   RRR         RRR         TTT  LLLLLLLLLLLLLLL
BBBBBBBBBBBBB    AAA        AAA   SSSSSSSSSSSS   RRR         RRR         TTT  LLLLLLLLLLLLLLL
```

BASRESTAR.

LIS

```
   1    0001   0  MODULE BAS$$RESTART_IO (                       ! Restart BASIC I/O statement
   2    0002   0                  IDENT = '1-002'                ! File: BASRESTAR.B32
   3    0003   0                  ) =
   4    0004   1  BEGIN
   5    0005   1  !
   6    0006   1  !***************************************************************************
   7    0007   1  !*                                                                         *
   8    0008   1  !*   COPYRIGHT (c) 1978, 1980, 1982, 1984 BY                               *
   9    0009   1  !*   DIGITAL EQUIPMENT CORPORATION, MAYNARD, MASSACHUSETTS.                *
  10    0010   1  !*   ALL RIGHTS RESERVED.                                                  *
  11    0011   1  !*                                                                         *
  12    0012   1  !*   THIS SOFTWARE IS FURNISHED UNDER A LICENSE AND MAY BE USED AND COPIED *
  13    0013   1  !*   ONLY IN  ACCORDANCE WITH  THE  TERMS OF  SUCH  LICENSE  AND WITH THE  *
  14    0014   1  !*   INCLUSION OF THE ABOVE COPYRIGHT NOTICE. THIS SOFTWARE OR  ANY  OTHER *
  15    0015   1  !*   COPIES THEREOF MAY NOT BE PROVIDED OR OTHERWISE MADE AVAILABLE TO ANY *
  16    0016   1  !*   OTHER PERSON.  NO TITLE TO AND OWNERSHIP OF  THE  SOFTWARE IS  HEREBY *
  17    0017   1  !*   TRANSFERRED.                                                          *
  18    0018   1  !*                                                                         *
  19    0019   1  !*   THE INFORMATION IN THIS SOFTWARE IS  SUBJECT TO CHANGE WITHOUT NOTICE *
  20    0020   1  !*   AND  SHOULD  NOT  BE  CONSTRUED AS  A COMMITMENT BY DIGITAL EQUIPMENT *
  21    0021   1  !*   CORPORATION.                                                          *
  22    0022   1  !*                                                                         *
  23    0023   1  !*   DIGITAL ASSUMES NO RESPONSIBILITY FOR THE USE  OR  RELIABILITY OF ITS *
  24    0024   1  !*   SOFTWARE ON EQUIPMENT WHICH IS NOT SUPPLIED BY DIGITAL.               *
  25    0025   1  !*                                                                         *
  26    0026   1  !*                                                                         *
  27    0027   1  !***************************************************************************
  28    0028   1
  29    0029   1  !++
  30    0030   1  ! FACILITY: BASIC + 2 Support Library - User callable
  31    0031   1  !
  32    0032   1  ! ABSTRACT:
  33    0033   1  !
  34    0034   1  !     This module effects the restart of a BASIC I/O statement.
  35    0035   1  !     This only happens on certain typing errors from a terminal.
  36    0036   1  !
  37    0037   1  ! ENVIRONMENT:  VAX-11 User mode
  38    0038   1  !
  39    0039   1  ! AUTHOR: John Sauter, CREATION DATE: 07-MAY-1979
  40    0040   1  !
  41    0041   1  ! MODIFIED BY:
  42    0042   1  !
  43    0043   1  ! 1-001 - Original.  JBS 07-MAY-1979
  44    0044   1  ! 1-002 - Conform to new BAS$$IO_BEG.  JBS 24-JUL-1979
  45    0045   1  !--
  46    0046   1
  47    0047   1  !<BLF/PAGE>
```

BAS$$RESTART_IO
1-002

H 13
16-Sep-1984 01:04:44   VAX-11 Bliss-32 V4.0-742
14-Sep-1984 11:56:35   [BASRTL.SRC]BASRESTAR.B32;1

Page 2
(2)

```
 49      0048  1  !
 50      0049  1  ! SWITCHES:
 51      0050  1  !
 52      0051  1
 53      0052  1  SWITCHES ADDRESSING_MODE (EXTERNAL = GENERAL, NONEXTERNAL = WORD_RELATIVE);
 54      0053  1  !
 55      0054  1  !
 56      0055  1  ! LINKAGES
 57      0056  1  !
 58      0057  1
 59      0058  1  REQUIRE 'RTLIN:OTSLNK';                          ! Define all linkages
 60      0487  1
 61      0488  1  !
 62      0489  1  ! TABLE OF CONTENTS:
 63      0490  1  !
 64      0491  1
 65      0492  1  FORWARD ROUTINE
 66      0493  1      BAS$$RESTART_IO;                             ! Restart an I/O statement
 67      0494  1
 68      0495  1  !
 69      0496  1  ! INCLUDE FILES:
 70      0497  1  !
 71      0498  1
 72      0499  1  REQUIRE 'RTLML:OTSLUB';                          ! logical unit block (LUB) offsets
 73      0639  1
 74      0640  1  REQUIRE 'RTLML:OTSISB';                          ! I/O statement block (ISB) offsets
 75      0808  1
 76      0809  1  REQUIRE 'RTLIN:RTLPSECT';                        ! Define DECLARE_PSECTS macro
 77      0904  1
 78      0905  1  LIBRARY 'RTLSTARLE';                             ! STARLET macros and symbols
 79      0906  1
 80      0907  1  !
 81      0908  1  ! MACROS:
 82      0909  1  !
 83      0910  1  !     NONE
 84      0911  1  !
 85      0912  1  ! EQUATED SYMBOLS:
 86      0913  1  !
 87      0914  1  !     NONE
 88      0915  1  !
 89      0916  1  ! PSECT DECLARATIONS:
 90      0917  1  !
 91      0918  1  DECLARE_PSECTS (BAS);
 92      0919  1  !
 93      0920  1  ! OWN STORAGE:
 94      0921  1  !
 95      0922  1  !     NONE
 96      0923  1  !
 97      0924  1  !
 98      0925  1  ! EXTERNAL REFERENCES:
 99      0926  1  !
100      0927  1
101      0928  1  EXTERNAL ROUTINE
102      0929  1      BAS$IO_END : NOVALUE,                        ! End of I/O statement
103      0930  1      BAS$$IO_BEG : NOVALUE;                       ! Start of I/O statement
104      0931  1
105      0932  1  EXTERNAL
```

```
; 106           0933 1    OTS$$A_CUR_LUB;                              ! Address of current logical unit block
; 107           0934 1
```

BAS$$RESTART_IO
1-002

J 13
16-Sep-1984 01:04:44   VAX-11 Bliss-32 V4.0-742
14-Sep-1984 11:56:35   [BASRTL.SRC]BASRESTAR.B32;1

Page 4
    (3)

```
  109        0935   1   GLOBAL ROUTINE BAS$$RESTART_IO =                    ! Restart an I/O statement
  110        0936   1
  111        0937   1   !++
  112        0938   1   ! ABSTRACT:
  113        0939   1   !
  114        0940   1   !     Restart a BASIC I/O statement after a typing error.
  115        0941   1   !     Information about the current statement is gathered, and then
  116        0942   1   !     the statement is put through a normal end by calling BAS$IO_END.
  117        0943   1   !     Using the gathered information the statement is initialized
  118        0944   1   !     again by calling BAS$$IO_BEG with its original parameters.
  119        0945   1   !     Return is made to the RESTART_IO subroutine in the error module,
  120        0946   1   !     which will branch to the start of the I/O list.
  121        0947   1   !
  122        0948   1   ! FORMAL PAREMETERS:
  123        0949   1   !
  124        0950   1   !     NONE
  125        0951   1   !
  126        0952   1   ! IMPLICIT INPUTS:
  127        0953   1   !
  128        0954   1   !     OTS$$A_CUR_LUB.ra          Pointer to the current LUB/ISB/RAB.
  129        0955   1   !
  130        0956   1   ! IMPLICIT OUTPUTS:
  131        0957   1   !
  132        0958   1   !     The LUB/ISB/RAB is reinitialized for the I/O statement.
  133        0959   1   !
  134        0960   1   ! ROUTINE VALUE:
  135        0961   1   !
  136        0962   1   !     The address of the beginning of the I/O list.
  137        0963   1   !
  138        0964   1   ! SIDE EFFECTS:
  139        0965   1   !
  140        0966   1   !     NONE
  141        0967   1   !--
  142        0968   1
  143        0969   2     BEGIN
  144        0970   2
  145        0971   2     GLOBAL REGISTER
  146        0972   2         CCB = K_CCB_REG : REF BLOCK [, BYTE];
  147        0973   2
  148        0974   2     LOCAL
  149        0975   2         RESTART_PC,                                 ! Address of the start of the I/O list
  150        0976   2         LUN,                                        ! Logical unit number
  151        0977   2         STMT_TYPE,                                  ! Statement type
  152        0978   2         FMP;                                        ! User's frame pointer
  153        0979   2
  154        0980   2   !+
  155        0981   2   ! Save the information needed to call BAS$$IO_BEG.
  156        0982   2   !-
  157        0983   2     CCB = .OTS$$A_CUR_LUB;
  158        0984   2     RESTART_PC = .CCB [ISB$A_RESTARTPC];
  159        0985   2     LUN = .CCB [LUB$W_LUN];
  160        0986   2     STMT_TYPE = .CCB [ISB$B_STTM_TYPE];
  161        0987   2     FMP = .CCB [ISB$A_USER_FP];
  162        0988   2   !+
  163        0989   2   ! Suppress any "dangling prompt".  The prompt will be produced again
  164        0990   2   ! when we restart the I/O statement.
  165        0991   2   !-
```

```
  166      0992  2         CCB [RAB$B_PSZ] = 0;
  167      0993  2      !+
  168      0994  2      ! Now end the I/O statement.
  169      0995  2      !-
  170      0996  2         BAS$IO_END ();
  171      0997  2         CCB = 0;
  172      0998  2      !+
  173      0999  2      ! Now start a new I/O statement, just like the one we ended.
  174      1000  2      !-
  175      1001  2         BAS$$IO_BEG (.STMT_TYPE, .LUN, .FMP, .RESTART_PC);
  176      1002  2      !+
  177      1003  2      ! Return the address of the I/O list to our caller, who will branch to
  178      1004  2      ! it, thereby completing the restart of the I/O statement.
  179      1005  2      !-
  180      1006  2         RETURN (.RESTART_PC);
  181      1007  1         END;                            ! End of BAS$$RESTART_IO routine
```

```
                                                           .TITLE   BAS$$RESTART_IO
                                                           .IDENT   \1-002\

                                                           .EXTRN   BAS$IO_END, BAS$$IO_BEG
                                                           .EXTRN   OTS$$A_CUR_LUB

                                                           .PSECT   _BAS$CODE,NOWRT,  SHR,  PIC,2

                                  083C 00000               .ENTRY   BAS$$RESTART_IO, Save R2,R3,R4,R5,R11     ; 0935
                     5B 00000000G 00   D0 00002            MOVL     OTS$$A_CUR_LUB, CCB                       ; 0983
                     54      FF44 CB   D0 00009            MOVL     -188(CCB), RESTART_PC                     ; 0984
                     55        C6 AB   32 0000E            CVTWL    -58(CCB), LUN                             ; 0985
                     53      FF71 CB   9A 00012            MOVZBL   -143(CCB), STMT_TYPE                      ; 0986
                     52      FF4C CB   D0 00017            MOVL     -180(CCB), FMP                            ; 0987
                               34 AB   94 0001C            CLRB     52(CCB)                                  ; 0992
         00000000G 00         00 FB 0001F                  CALLS    #0, BAS$IO_END                            ; 0996
                              5B D4 00026                  CLRL     CCB                                      ; 0997
                              14 BB 00028                  PUSHR    #^M<R2,R4>                                ; 1001
                              28 BB 0002A                  PUSHR    #^M<R3,R5>
         00000000G 00         04 FB 0002C                  CALLS    #4, BAS$$IO_BEG
                        50    54 D0 00033                  MOVL     RESTART_PC, R0                            ; 1006
                              04 00036                     RET                                              ; 1007
```

; Routine Size: 55 bytes,   Routine Base: _BAS$CODE + 0000

```
  182      1008  1
  183      1009  1 END                                     ! End of BAS$$RESTART_IO module
  184      1010  1
  185      1011  0 ELUDOM
```

                            PSECT SUMMARY

        Name   Bytes   Attributes

```
;  _BAS$CODE                              55  NOVEC,NOWRT, RD , EXE, SHR, LCL, REL, CON, PIC,ALIGN(2)



;                          Library Statistics
;
;
;                                        -------- Symbols --------      Pages       Processing
;          File                          Total   Loaded   Percent      Mapped      Time
;
;  _$255$DUA28:[SYSLIB]STARLET.L32;1     9776      1        0          581         00:01.2




;                          COMMAND QUALIFIERS

;      BLISS/CHECK=(FIELD,INITIAL,OPTIMIZE)/NOTRACE/LIS=LIS$:BASRESTAR/OBJ=OBJ$:BASRESTAR MSRC$:BASRESTAR/UPDATE=(ENH$:BASRESTAR
;      )

; Size:         55 code + 0 data bytes
; Run Time:         00:08.2
; Elapsed Time:     00:24.1
; Lines/CPU Min:    7388
; Lexemes/CPU-Min: 44492
; Memory Used:  110 pages
; Compilation Complete
```